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VOLUME III — NO. 5 MONTANA FISH AND GAME DEPARTMENT MAY, 1968

Director's Column

Frank Dunkle, Director of Montana Fish and Game Department.

WATER—THE LEDGER—THE FUTURE

Following is a portion of a speech presented by Fish and Game Director Frank Dunkle to the Montana Section of the American Water Works Association and the Montana Water Pollution Control Association.

Those of you who have kept up with developments in the water management business have noted the development of water-based recreation and are aware of its high value to the state of Montana.

Montana's water-based recreation is undoubtedly the mainstay of our tourist industry which ranks somewhere among the top four or five industries, and it is growing at a phenomenal rate. The future growth of this industry depends on water, cool and clear; and lots of it, both standing and flowing. Our management problem with this water is to be absolutely sure that people today and people 100 years from now can have the pleasure of dragging trout out of it. No other state in the Union has been better blessed with the combination of environmental factors that produce trout streams than has Montana. Perhaps because Montana has been so blessed, we have in the past been careless with this basic resource. Our task now is to start back the long road and reclaim what we can of what has been lost; we certainly cannot consider sacrificing a significant portion of what remains.

You and I—fishermen, farmers, miners, loggers, politicians, citizens—along with cutthroat trout, grizzly bear, Hereford cattle and sheep are all wound up and tied together, and like it or not we must live together. We are all in the same arena. Scientists call it an ecosystem, but it does resemble an arena, and what any one member in this arena does will ultimately affect the others. We have the technology available today to make this ecosystem, or arena, work like a fine, well-oiled machine. We have also demonstrated an ability to fill the gears with wrenches. In the long run the system will work well only if we are all willing to recognize the problems, needs and values important to all of the inhabitants of our arena.

The management of Montana's fish and game resources is directly related to the many aspects of other land and water uses. When other users of land and water do not use sound management and conservation principles, our fish and game resources suffer. Needless to say, agricultural, industrial and municipal uses also suffer when they have to make do with eroded land and degraded water. When range land is overgrazed, the range is no longer as productive as it could be for domestic livestock or deer and elk production. When our surface water supplies are polluted the use of this water becomes less desirable for industrial and municipal uses, as well as becoming less desirable for producing fish and related recreation. This situation has happened in the past and continues to happen today because some individuals believe that Montana's resources were created for them alone, to use and abuse as they see fit at the moment.

Montana is a trout stream-fishing state. We have excellent trout fishing because we have streams of high quality both in the physical condition of the stream channels and the quality of the water they contain. Trout have a range of tolerance to the physical and chemical characteristics of their environment that is narrower than yours and mine. In a time where man has demonstrated an ability to totally foul even his own environment, this is worth more than a passing thought.

When I stand on the bank of a river running red, and watch the fish die because we cannot settle our human differences, I can't help but wonder which member in this arena we will be willing to sacrifice next.

A pollution-caused fish kill is quite dramatic and few would argue that such pollution is not harmful to fish. But equally as damaging are the subtle changes from gradually-increasing pollution that slowly degrade a particular stream. The end effect is the same as that caused by an instantaneous fish kill—the trout's portion of our environment is destroyed. This gradually accumulating pollution has only had the effect of conditioning people to accept it; it has not conditioned fish to tolerate it.

Of the water pollutants which cause subtle changes in the aquatic environment, silt is probably the most damaging. Silt from various sources—construction projects, overgrazed areas, poorly-logged areas, irrigation return flows, mining and storm drains in cities all make their contribution.

Organic waste such as raw sewage

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Edited by VERNON CRAIG

or poorly treated sewage, waste from sugar beet refineries, pulp mills, saw mills, and packing plants remove oxygen that fish need to survive. Waste from oil refineries cause fish to taste as though they were soaked in kerosene.

High temperatures from nuclear or fossil-fuel steam-electric plants are posing a serious threat. The adverse effects of increased water temperature on salmon in the Columbia River from steam-electric plants have already been demonstrated. The potential problem becomes a little clearer when you consider that it has been estimated that by 1980, with the exception of high spring runoff flows, one-half of the total stream flow in the United States will be used as cooling water for power production.

Montana appears poised on the brink of a rapidly expending use of her natural resources. Steam-generating plants are being planned, vast coal fields are being surveyed, promising copper deposits are being investigated, timber sales and mills are rapidly increasing, and in general there seems to be a lot going on relative to our resources.

What does it all mean to Montana? Can we look anywhere for guidance? Other parts of our land have been through some of this. Perhaps the most classic example in our times is Appalachia. Here the land was once rich in resources, both mineral and fish and wildlife. Man exploited and ravaged that land because his attitude was, what is good for my pocketbook and profit ledger must be good for everything and everyone. This appeared to be correct, at least for a while, and there was a generation of prosperity across that land. But that one generation of prosperity has been followed by generation after generation of abject proverty. Poverty because they destroyed the land and consequently the resources dependent upon its wise use. Now all that area produces is a parade of self-centered demagogues and their empty promises. But Appalachia has an excuse because the examples from which it could have learned are a continent and centuries away. Nature has judged the men of Appalachia and their decisions; her judgment has been harsh. In their defense they can claim they had no close examples to look to, no Americans had gone that way before. We in Montana will have no such excuse. We can and must do better for technology tells us we can if only we will. The vast coal fields of eastern Montana are a natural resource that certainly could be utilized for the total good of this state, and I applaud the efforts of those who would develop them. But let us recognize that a portion of this vast wealth taken from the land must be returned to the land. Leave us with an area that can again produce fish and wildlife and we will manage that resource with care and will pass it on to generations yet unborn. The same is true of the ore deposits being investigated in the Lincoln country. Open the earth and remove her gifts, but respect the beauty of that land that is cherished by all Montanans. Carefully plan every step of development so the bitter battles of the Clark Fork need not be repeated, and we will enhance if possible, the recreational potential of the incomparable Blackfoot River.

We can use these and all the resources of our state for whatever good they can bring, but we must also care for the land from which we take them. For some day they will be gone, then how will your children and mine exist? Will we leave them a stripped and ravaged land with streams draining acid water to dream by and wonder of our greed? Or will the scene be one of tranquility with livestock on the range and fish in the streams because we practiced proper husbandry. The decision is ours and its implications go beyond the ledger sheet.

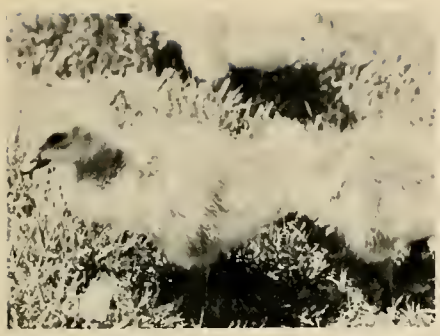
Frank H. Dunkle

Canadian Honkers usually nest on land near water. The female actively defends the nest and is a formidable fighter.

Early Promises Good For Canada Geese

Spring flights to check nesting pairs of Canadian geese in several Montana areas have shown encouraging signs. Also encouraging is the fact that it now appears that most goslings will be pipped before high water floods out nests.

Few birds are as picturesque as the big honkers. The long undulating flights of geese that dot leaden autumn skies, and the wild calls in the night give men pause. It's little wonder that the birds are known by many local names, including Bay Goose, Bernache, Big Gray Goose, Big Mexican Goose, Black-Headed Goose, Black-Necked Goose, Canada Brant, Common Wild Goose, Cravat



Goslings, but a few hours old are off the nest and looking for food.

Goose, French Goose, Honker, Long-Necked Goose, Northern Goose, Reef Goose, Wavey, and Wild Goose.

Canada geese are among the earliest nesting waterfowl. A nest on the ground near water is most common; however, they will occasionally take over the nest of an osprey, a hawk, or nest on ledges high above water. The nests generally contain five or six creamy-white eggs which incubate in 28-30 days.

Soon after eggs hatch, the young goslings leave the nest. They are pampered and carefully guarded by both the male and female parents. The first week or two in a young bird's life is a most precarious one, and it is at this stage that a high percentage of mortality occurs. By about mid-August the young are ready to fly, and they are strong fliers by the time leaves start to fall and flights to southern wintering grounds begin.

Interstate Lakes

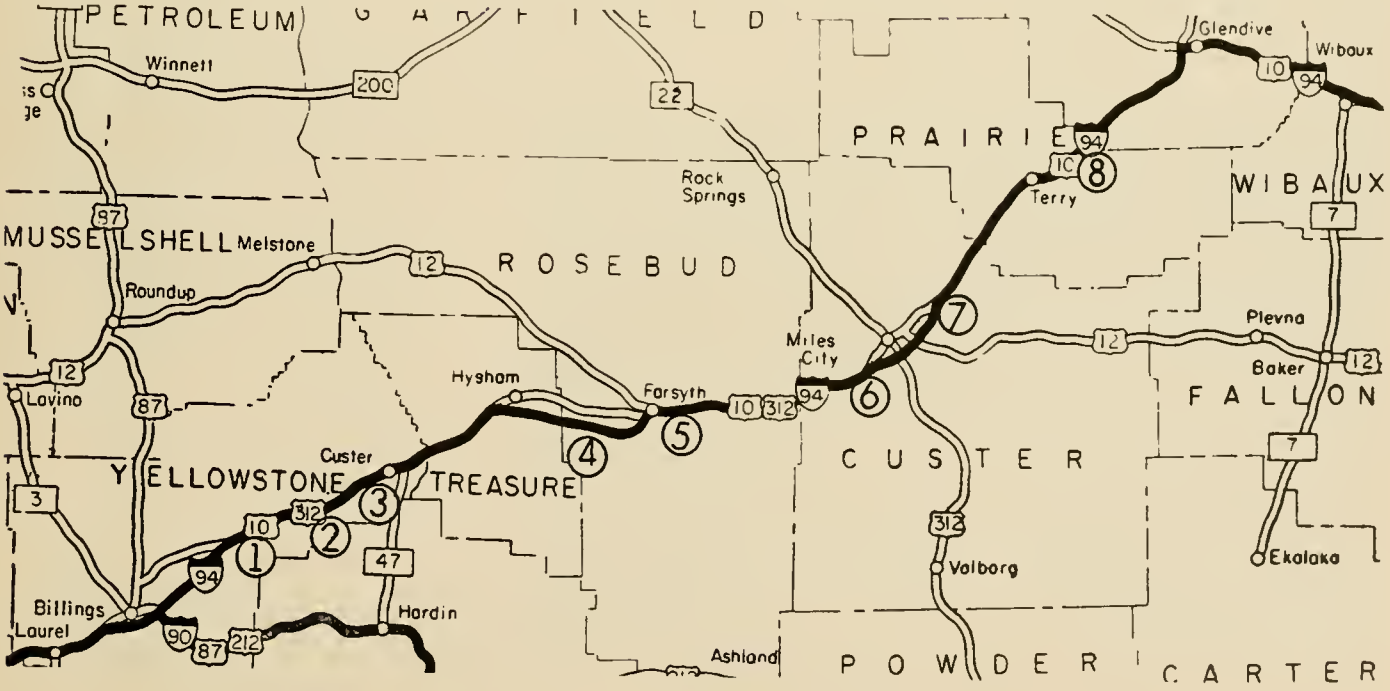
The Montana Fish and Game Department and Highway Department have been working together on planning some fishing reservoirs along new highway construction in Montana. Eight lakes are presently in the planning stage for Interstate 94 between Billings and Glendive. Some of the lakes will be 30 acres or larger. It is expected that the sites will become popular for fishing as well as other outdoor recreation.

Nebraska and North Dakota have already provided more fishing in their states by using highways as dams to back up reservoirs in coulees and gullies. Engineering calls for construction which is a little out of the usual because an overflow structure is used instead of culverts. Core materials in the highways at these sites must be impervious to water.

There are yet some problems to be ironed out in Montana however. A large part of the land which will be flooded by highway dams will not lie within the right-of-way. This means that the land will either have to be purchased or easements granted for its use. Access roads will have to be provided.

The problem of where to get additional revenue to complete these areas now rears its ugly head. The program will be fairly expensive. The Highway Department will be able to go only so far before coming to the end of legal strings that limit the use of their funds. The Fish and Game Department is in no position to meet the costs. A possibility would be a special appropriation for enough money to tie up the loose ends.

Good fishing and water recreation areas in eastern Montana are at a premium. Such sites should get a lot of use. The kinds of fish that would be planted in each area would depend upon quality and amount of water supply, size and depth of individual reservoirs.



Circled numbers indicate proposed sites for "Interstate Lakes."

Certain Lifesaving Devices No Longer Legal

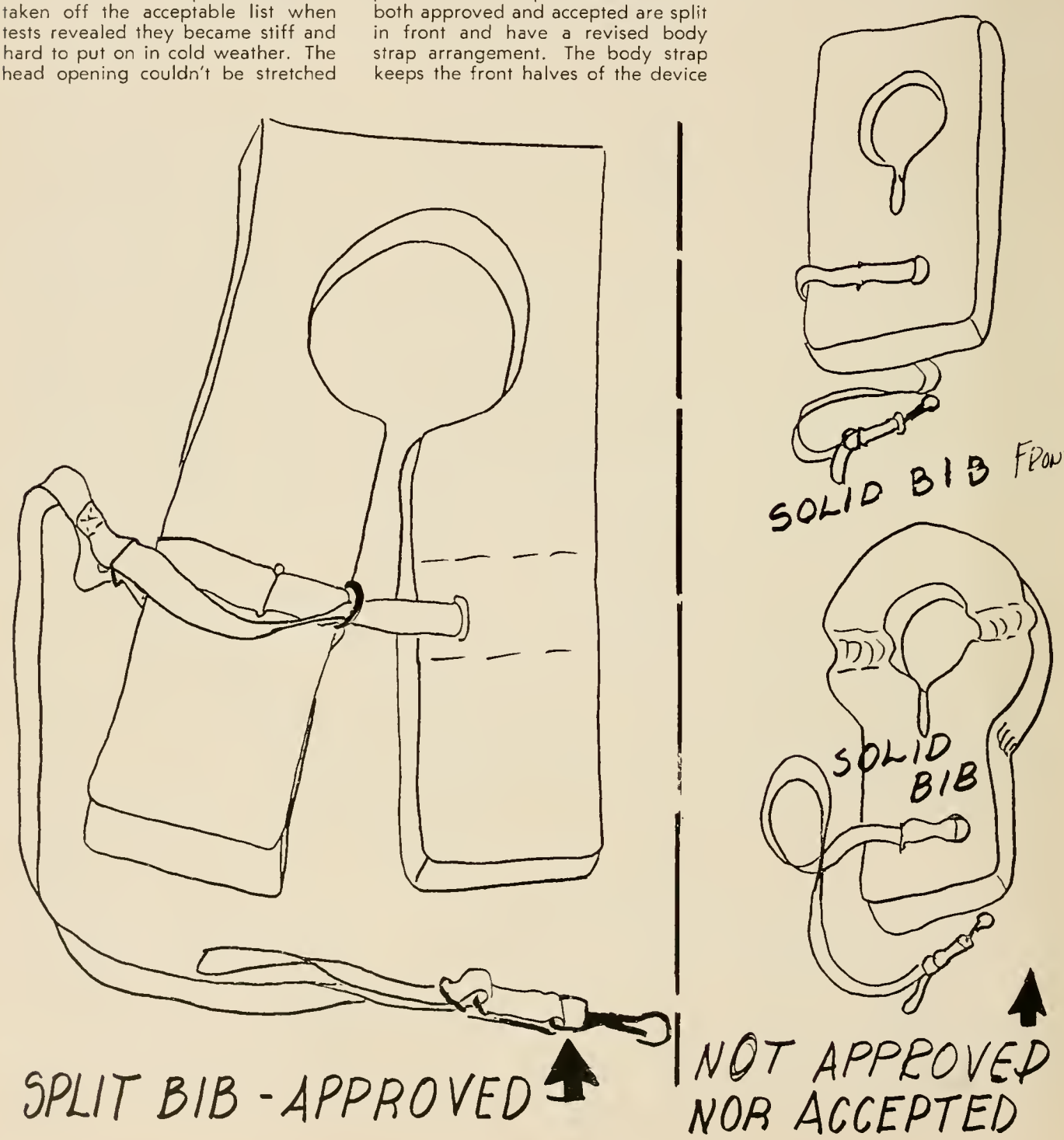
The U. S. Coast Guard recently amended federal regulations, making certain plastic lifesaving devices obsolete as of Nov. 1, 1967. Montana's water safety law requires that lifesaving devices must be of a type approved by the U. S. Coast Guard. Therefore, the obsolete lifesavers are no longer legal in Montana.

Vinyl coated, one-celled plastic foam life preservers with a solid bib front are out. These preservers were taken off the acceptable list when tests revealed they became stiff and hard to put on in cold weather. The head opening couldn't be stretched enough to easily slip the preserver on.

The same type of one-celled plastic foam preservers not slit in front but cloth covered are no longer approved either. However, previously approved cloth covered devices are still acceptable as meeting Coast Guard requirements if they are in good condition.

The only vinyl coated, single-celled plastic foam life preservers that are both approved and accepted are split in front and have a revised body strap arrangement. The body strap keeps the front halves of the device together when it is worn. Low temperatures do not affect these preservers and they are still reversible.

The one-celled plastic foam life preservers no longer approved are included in Coast Guard approval numbers 160.055/1/0 through 160.055/29/0. Life preservers bearing approval numbers 160.055/50/0 or higher are acceptable under the amended regulation.



BLUE GROUSE BANDING STUDIES . . . by Philip Schladweiler

Hardy blue grouse spend long winters quietly among the pines where they find ample larder to meet their winter diets.

Blue grouse are unique among Montana wildlife in that they winter at high elevations and in spring descend to lower levels where they breed and raise broods. The hardy grouse spend most of the winter in trees and eat mainly needles of Douglas fir or other true firs for five to six months of the year. They may remain in one tree or in a small group of trees for several days at this time.

In spring, following their monotonous winter schedules, the blue grouse descend to breeding areas at lower elevations. Males move down slightly in advance of the females. The breeding areas are located in mixed-age forest where the forest crown cover is semi-open (25 to 65 percent). More specific breeding habitat requirements are presently being studied by a graduate student from Montana State University in order to provide forest managers with guidelines for maintaining and or creating critical blue grouse breeding habitat.

Upon arrival on the breeding grounds, males establish breeding territories of one to two acres in size. The males vigorously defend their territories against all other males while attempting to entice females by a series of courtship calls and plumage displays. It has been learned that usually only cocks two years old or older hold territories. Yearling males, although capable of breeding, are generally prevented from holding territories by the dominance of the older cocks. At this time of year, the males are relatively easy to capture with nooses attached to the end of a long pole. After capture, birds are marked with two colored leg bands on each leg. This affords recognition of individual birds.

By July the males and any non-breeding or unsuccessful nesting hens begin a leisurely journey to their winter homes higher in the mountains. Hatching of chicks usually occurs during mid-June and females with young do not start the upward trek until sometime in August. The migratory habit of the blue is one of the primary factors influencing hunter success during the fall. Blues may leave summer areas earlier during dry years and will be more or less concentrated in moist areas where green, succulent vegetation is available. Moist falls will find them more widely scattered over the summer and winter range. Bird hunters will do well to keep these things in mind during the fall hunting season.

Studies of banded males have revealed knowledge which has proven useful in several ways. For instance, it has been found that once a male has become established on a territory he returns to it year after year until his death. When a male fails to return to his territory in the spring it may remain vacant, but more than likely another male will take up residence there, often using essentially the same area as the previous occupant. This fidelity of the male to his territory was useful in assessing the effects of DDT spraying on blue grouse for it provided samples of banded males from areas of known spray deposits. Tissues from these birds were analyzed at intervals up to two years following spraying. It was found that fat deposits were highest in the spring, just prior to the peak of breeding. Significant residues of DDT were detected in fatty tissues within seven days after spraying and were still present in birds from a heavily sprayed area nearly two years later. A direct relationship between ground deposits of DDT, male grouse mobility (territorial status) and residues found in fatty tissues was indicated. Knowledge that DDT residues—were accumulating in blue grouse and other wildlife in excess of amounts allowed in domestic meat helped lead to the discontinuance of extensive DDT use in Montana.

Since 1965, banded blue grouse have been valuable to a study of effects of new forest insecticides. The year-to-year survival of banded males is being compared between sprayed and unsprayed areas on national forests of western Montana. Some of the blues have also been equipped with miniature radio transmitters in order to determine their fates after exposure to experimental insecticides.

The migratory habits of blue grouse affect hunter success. The breeding and summer ranges are generally small in comparison to the wintering areas and to the areas traversed in traveling from summer to winter ranges. The summer ranges,

Moving in slowly upon a displaying male grouse, Dr. Robert Eng makes ready to noose the bird so it may be banded.

being at lower elevations, are generally accessible by road, whereas many large areas of winter and transitional ranges are not. Therefore, it has been desirable to open the season in early September before a majority of the birds reach inaccessible spots.

A question that must be considered is, how early can the season be opened yet have young birds of adequate size? Studies of banded juvenile blues that were recaptured and weighed at intervals show that they attain most of their first year's growth within ten weeks. Since over 90 percent of the broods hatch by the first week in July, most juveniles are of harvestable size by early September. This allows hunting when more birds are available to the gunner in many areas. Hunters that have difficulty finding blues on high ridgetops during the early season will benefit by trying lower elevations and returning to ridgetops later in the season.

Studies of nearly 1,200 grouse banded in Montana over the past 11 years have revealed that they enjoy one of the lowest mortality rates of any of our upland game birds. At the same time, they have a lower reproductive rate and enjoy longer lives than most upland birds. While most upland bird species lose 50 to 75 percent of the adults each year, only 30 to 35 percent of adult blue grouse die from one breeding season to the next. Pheasants seldom live beyond three years, whereas a small percentage of banded blues are still living in western Montana after eight years.

From the sample of nearly 1,200 banded blues, less than 80 (about 6.5 percent) have been reported taken by hunters. Even if only one-half of the bands might be reported, this harvest by hunters has not had significant effects on the numbers of birds returning to breeding areas the following spring. Up to 70 percent of banded males and 50 percent of banded females have returned to spring breeding areas following two months of hunting the previous fall. Other game bird studies have shown that hunting mortality can be a replacement for other natural losses. These facts obtained by banding research have been the main basis for increases in both the length of the hunting season (nine to 10 weeks in 1967 as compared to two weeks ten years earlier) and in the number of birds allowed in the bag.

The blue grouse are justly favored among Montana's finest native grouse. Research efforts are designed to provide land and game managers with guidelines to perpetuate and utilize this mountain grouse. Banding will continue to be an important study tool for grouse researchers as recreational pressures demand more knowledge needed to skillfully manage wildlife and wildlife habitat.

BITTERROOT LAKE STATE PARK

by Ashley Roberts

Back in 1938 the state of Montana found itself in possession of a thirty acre tract of land bordering Bitterroot Lake. The area had a large, beautiful lodge with dining facilities, a kitchen and a large meeting room. The lodge had been constructed during the 30's by the Federal Government for use by the National Youth Administration as a summer camp. The State Land Board was of the opinion that the area could continue to be used for youth camp purposes as well as provide public picnic and camping facilities. On November 30, 1938, the area was passed along from the State Land Board to the State Parks Commission so that the intended purpose might be carried out.

Little was accomplished with the area until after World War II. On the first of March, 1950 ,the State Parks Commission entered into an agreement with the Lions Club of Kalispell whereby a portion of the area would be operated by the Lions Club as a youth camp. Since that time the Lions Club has utilized the lodge building and has constructed barracks and made other improvements. Now the Lions Club Youth Camp at Bitterroot Lake State Park is busy every summer with youth activities.

The youth camp will accommodate a group of up to 120 persons at a time. The lodge building is used as a dining hall and also provides space for games and dancing. The waterfront has facilities for swimming and boating and the lake itself is stocked with trout. There is a softball field on the grounds and the surrounding area has many interesting sights and places to explore.

Bitterroot Lake itself is located in a beautiful mountain setting and is one of the more attractive areas in the state park system. The public use area is not large, but it does have picnic and camping facilities. These facilities are currently undergoing an improvement program under the provisions of the Land and Water Conservation Act. Additional improvements and enlargement of the public use area are planned as an additional project at a later date.

The park is located approximately twenty-five miles west of Kalispell off U. S. Highway No. 2. Many local residents of the Flathead area are familiar with the park and use it regularly. Many tourists also use the area as they travel enroute to or from Glacier National Park.

The elevation of the park is approximately 3,700 feet. During the summer months the days are warm and the nights are cool. The water in the lake is clear and an afternoon swim is enjoyable and refreshing.

Drop in sometime at Bitterroot Lake State Park . . . you'll enjoy your visit.

The Protection Game

The idea of game laws arrived on shores with the earliest white settlers.

Connecticut prohibited the exporting of game from the state as early as 1677. The first deer law, which prohibited the taking of does, was passed in Virginia in 1738. New York put a stop to the use of hounds in deer hunting in 1788, and Rhode Island passed the first seasonal regulation in 1846 to protect waterfowl from spring shooting.

The bag limit made its first appearance in Iowa in 1878 and by the end of the century 13 states were limiting the amount of game that could be taken by hunters. In the next ten years, sportsmen of 23 more states had called for this approach to wildlife conservation.

The concept of resident hunting licenses caught on even faster. The first were issued in 1895 in Michigan and North Dakota. By 1910 there were 33 states obtaining revenue from hunters through licenses.

New game laws required state game wardens to enforce them and in 1878 the first were appointed in New Hampshire and California. By the turn of the century they were employed by 31 states.

Congress joined the move to preserve game in 1900 sounding the death knell for the market hunters with passage of the Lacey Act.

National Shooting Sports Foundation

SPORTMAN'S LICENSES OFFERED

A handsome Montana Sportsman's License with car window decal is being offered to conservation-minded Montanans this year.

The sportsman's license is $20.00 as last year. It authorizes the holder to hunt game birds, to fish and to take 1 deer, 1 elk and a black bear. The purchase price of these licenses would total $12.00 under regular license sales. The additional "investment" cost of the sportsman's license will be used in programs to better relations among landowners and recreationists. Sports groups have been contacted and encouraged to submit ideas as to which programs they feel the money would benefit most. Eight dollars of the sportsman's license is tax deductible.

A decal bearing the sportsman's license number accompanies each license. The decal bears the owner's license number and the 3-C insignia which represents courtesy, consideration and common sense—the keys to landowner—recreationist harmony.

The decals are becoming recognized as representing "good risks,"—persons who respect the property and rights of landowners.

Montana Fish & Game Department
Helena, Montana

LICENSE NUMBER .....

APPLICATION FOR MONTANA SPORTSMEN'S LICENSE

Please Print

Name ..... (first) (initial) (last)

Address .....

City ..... State ..... Zip Code .....

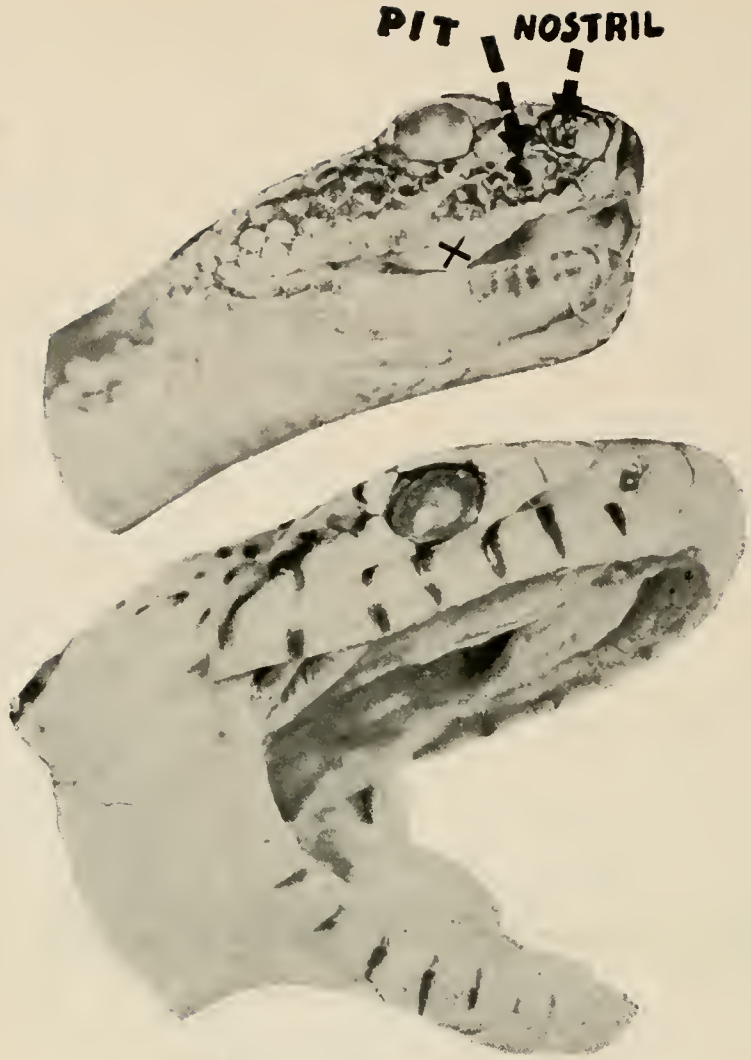
Business .....

Date of Birth ..... Sex ..... Height ..... Weight .....

Color Eyes ..... Color Hair .....

Phone Number ..... Area Code .....

Number of 1967 Sportsman's License, if held .....



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RATTLER IS PIT VIPER

The only poisonous snake in Montana is the prairie rattler. The rattlesnake is a pit viper, so called because the head contains a "pit" in front of and below the eye. Note the pit is lacking in the bull snake pictured below the rattler.

The next issue of "Montana Outdoors" will contain an article on the proper treatment of snakebite. Author is Dr. Donald Espelin a practicing Pediatrician in Helena and Director of the Helena Poison Control Center.

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